IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: David H. Jones et al.	Art Unit	: Unknown
Serial No.	:	Examiner	: Unknown
Filed	:		
Title	: METHOD OF MAKING MICROENCAPSULATED DNA FOR VACCINATION AND GENE THERAPY		

Commissioner for Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to examination and calculation of filing fees, please amend the application as follows:

In the specification:

At page 1, after the title, insert the following:

--Cross-Reference to Related Applications

This application is a divisional of U.S.S.N. 09/079,400, filed May 15, 1998, which is a continuation of U.S.S.N. 08/745,515, filed November 12, 1996; and claims priority under 35 U.S.C. § 119 from United Kingdom Application 9523019.9, filed November 9, 1995, United Kingdom Application 9601929.4, filed January 31, 1996, PCT Application GB96/02770, filed November 11, 1996, and United Kingdom Application 9709900.6, filed May 15, 1997.

Field of the Invention--.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

July 3, 2001
Date of Deposit

Kathryn Lugo
Signature

KATHRYN LUGO
Typed or Printed Name of Person Signing Certificate

At page 1, between lines 7 and 8, please insert:

--Background of the Invention--.

At page 4, between lines 18 and 19, please insert:

--Summary of the Invention--.

At page 4, between lines 22 and 23, please insert:

--Detailed Description of the Invention--.

At page 17, between lines 24 and 25, please insert:

--Brief Description of the Drawings--.

At page 19, between lines 5 and 6, please insert:

--Examples--.

In the claims:

Cancel claims 1-31.

Add claims 32-56:

--32. A composition comprising a polymer microparticle and an aqueous solution of DNA, wherein the DNA comprises a coding sequence, wherein the microparticle is 10μm or less in diameter, and wherein the aqueous solution of DNA has an alcohol content of 1 to 40% and is encapsulated inside the microparticle.

33. The composition according to claim 32, wherein the microparticle comprises a biodegradable polymer.

34. The composition according to claim 33, wherein the polymer is selected from the group consisting of a lactide-containing polymer, a glycolide-containing polymer and a polymer comprising lactide and glycolide.

35. The composition according to claim 33, wherein the polymer is soluble in an organic solvent.

36. The composition according to claim 32, wherein the microparticle consists of a biodegradable polymer.

37. The composition according to claim 36, wherein the polymer is selected from the group consisting of a lactide-containing polymer, a glycolide-containing polymer and a polymer comprising lactide and glycolide.

38. The composition according to claim 32, wherein the microparticle is in the size range 0.1 µm to 10 µm.

39. The composition according to claim 32, wherein the DNA is circular DNA or plasmid DNA.

40. The composition according to claim 32, wherein the DNA further comprises a promoter sequence operably linked to the coding sequence.

41. The composition according to claim 40, wherein the coding sequence encodes an immunogen.

42. The composition according to claim 41, wherein the coding sequence encodes an immunogenic component of a pathogenic organism selected from the group consisting of pathogenic bacteria and pathogenic viruses.

43. A pharmaceutical composition comprising a plurality of polymer microparticles and a pharmaceutically acceptable carrier, wherein the microparticles contain an aqueous solution of DNA, the aqueous solution of DNA has an alcohol content of 1 to 40%, and the DNA comprises a coding sequence encoding a polypeptide selected from the group consisting of:

(a) antigens FHA, PT, 68kd-Pertacin, tetanus toxin, gp-48, NS1, Capsid, gp350, NS3, SA, I, NP, E, M, gp340, F, H, HN, 35kd protein, BP1, E1, E2, C, M, E and MSHA; and

(b) immunogenic fragments of the polypeptides of (a).

44. The composition according to claim 43 wherein the micropartices are in the size range 0.1 µm to 10 µm.

45. The composition according to claim 44, wherein the DNA comprises double stranded plasmid DNA.

46. The composition according to claim 45, wherein the DNA further comprises a promoter sequence operably linked to the coding sequence.

47. The composition according to claim 43, wherein the polymer is a lactide containing polymer.

48. The composition according to claim 43, wherein the polymer is a glycolide-containing polymer.

49. The composition according to claim 43, wherein the polymer comprises poly(DL-lactide-co-glycolide).

50. The composition according to claim 43 wherein at least 50% of the microparticles are in the size range 0.1 μm to 10 μm.

51. The composition according to claim 43, further comprising a taste-enhancing agent.

52. A composition comprising a first and a second plurality of microparticles, wherein the first plurality of microparticles comprise (a) a first polymer having a first half-life *in vivo*, and (b) a first DNA comprising a sequence encoding a first immunogen, and the second plurality of microparticles comprise (i) a second polymer having a second half-life *in vivo*, and (ii) a second DNA comprising a sequence encoding a second immunogen.

53. The composition of claim 52, wherein the first and second immunogens are the same.

54. A composition according to claim 52, wherein the first half-life is up to two weeks and the second half-life is more than two weeks.

55. The composition of claim 52, wherein the first half-life of is up to two days and the second half life is more than two weeks.

56. The composition of claim 32, wherein the composition has a water content of less than 5%.--

REMARKS

Applicants have cancelled all of the pending claims and introduced new claims 32-56. Support for the addition of claim 32 can be found, for example, in the specification, at column 8, line 3, column 11, line 3, and in cancelled claim 1. Support for the addition of claim 33 can be found in the specification at page 14, line 4, and in cancelled claim 5. Support for the addition of claim 34 can be found in cancelled claim 6. Support for the addition of claim 35-39 can be found in cancelled claims 2, 5, 6, 7, and 3, respectively. Support for the addition of claim 40 can be found in the specification at page 12, line 4, and in cancelled claim 4. Support for the addition of claims 41-51 can be found in cancelled claims 8-13, 15-18, and 20, respectively. Support for the addition of claim 52 can be found in the specification at page 15, lines 20-25, and in cancelled claim 21. Support for the addition of claims 53 and 54 can be found in cancelled claims 22 and 23, respectively. Support for the addition of claim 55 can be found in the specification at page 16, line 3. Support for the addition of claim 56 can be found in cancelled claim 24. The amendments do not add any new matter.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be examined. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: July 3, 2001

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Version with markings to show changes made

In the specification:

At page 1, after the title, the following text was added:

Cross-Reference to Related Applications

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Examples.

In the claims:

Claims 1-31 have been cancelled.

Claims 32-56 have been added as follows:

32. A composition comprising a polymer microparticle and an aqueous solution of DNA, wherein the DNA comprises a coding sequence, wherein the microparticle is 10μm or less in diameter, and wherein the aqueous solution of DNA has an alcohol content of 1 to 40% and is encapsulated inside the microparticle.

33. The composition according to claim 32, wherein the microparticle comprises a biodegradable polymer.

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51. The composition according to claim 43, further comprising a taste-enhancing agent.

52. A composition comprising a first and a second plurality of microparticles, wherein the first plurality of microparticles comprise (a) a first polymer having a first half-life *in vivo*, and (b) a first DNA comprising a sequence encoding a first immunogen, and the second plurality of microparticles comprise (i) a second polymer having a second half-life *in vivo*, and (ii) a second DNA comprising a sequence encoding a second immunogen.

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54. A composition according to claim 52, wherein the first half-life is up to two weeks and the second half-life is more than two weeks.

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